

### **AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A syringe pump comprising:

a holding portion for holding a syringe provided with a scale in its peripheral wall for checking the amount of a chemical solution filled therein;

plunger pressing means for pressing and moving a plunger inserted in the syringe held by said holding portion, in the axial direction to inject the chemical solution in the syringe;

control means for controlling said plunger pressing means so that said plunger pressing means presses the plunger continuously at a predetermined speed,

travel amount detecting means for detecting the travel amount of the plunger;

distal end detecting means for detecting the fact that the plunger has moved to the distal end of syringe;

distance measuring means for measuring the travel distance of the plunger based on said travel amount detecting means and said distal end detecting means;

input means capable of inputting the capacity of syringe; and

storage means capable of storing the travel distance of plunger measured by said distance measuring means and the capacity of syringe input by said input means, and

said control means comprising means for controlling the injection of chemical solution in the syringe accomplished via said plunger pressing means based on the travel distance of the plunger and the capacity of the syringe;

wherein the syringe pump comprises:

outside diameter detecting means for detecting the outside diameter of the syringe held by said holding portion;

capacity calculating means for calculating the capacity of the syringe based on the outside diameter of syringe detected by said outside diameter detecting means and the travel distance of plunger measured by said distance measuring means;

difference calculating means for calculating a difference between  
the capacity of syringe calculated by said capacity calculating means and  
the capacity of syringe input by said input means; and  
registration means which accepts storage of the capacity of the  
syringe input by said input means in said storage means if the difference in  
capacity of syringe calculated by said difference calculating means is  
within a predetermined range.

2. (Canceled).

3. (Currently Amended) The syringe pump according to claim 21, wherein said storage means comprises an initial syringe data storage section which stores in advance predetermined data including the outside diameters of predetermined syringes of a plurality of kinds, and at least the capacity of syringe and the travel distance of plunger, which correspond to the syringe of each outside diameter.